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**Jacobson et al.**

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[54] **NONEMISSIVE DISPLAYS AND  
PIEZOELECTRIC POWER SUPPLIES  
THEREFOR**

[75] Inventors: **Joseph M. Jacobson; Barrett  
Comiskey**, both of Cambridge, Mass.

[73] Assignee: **Massachusetts Institute of  
Technology**, Cambridge, Mass.

[\*] Notice: This patent is subject to a terminal disclaimer.

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**Related U.S. Application Data**

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G09F 1/00

[52] **U.S. Cl.** ..... **359/296**; 345/107; 40/124.02;  
40/124.09

[58] **Field of Search** ..... 359/296; 345/107;  
40/124.01, 124.02, 124.09, 124.11, 124.12;  
36/136, 137

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*Primary Examiner*—Georgia Epps  
*Assistant Examiner*—Evelyn A. Lester  
*Attorney, Agent, or Firm*—Cesari and McKenna, LLP

[57] **ABSTRACT**

An electrophoretic display has a substantially two-dimensional arrangement of microcapsules each having therein an electrophoretic composition of a dielectric fluid and a suspension of particles that visually contrast with the dielectric liquid and also exhibit surface charges; a pair of electrodes, at least one of which is visually transparent, disposed on and covering opposite sides of the microcapsule arrangement; and a power source for creating a potential difference between the two electrodes, the potential difference causing the particles to migrate toward one of the electrodes. The display may be powered by one or more piezoelectric elements, which are also suitable for powering other types of nonemissive displays.

**3 Claims, 5 Drawing Sheets**

